

*Changing How the World Learns*

**Title:** Heredity Basics for Middle School 2

**Subject:** Life Science

**Grade:** 6-8

**Cross-curricular links:** Math

**Lesson length:** 40 minutes

**Overview:**

Review of Gregor Mendel and different types of traits.

Students are given an overview of the difference between a genotype and a phenotype.

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## What do you remember about Heredity?

Traits are observable characteristics that make us unique.

Genotype = the code representing a trait

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EX: TT, Tt, tt

Phenotype = the physical expression of a trait

Ex: Blonde Hair, Tall, Brown Eyes



Bone Structure  
Intelligence  
Physical ability



Hair Color

Eye Color

Dimples

Freckles

Skin tone



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ISN



Traits are what  
make us unique!



**Who is known as being  
the "Father of Heredity?"**

**A-James Watson**

**B-Robert Hooke**

**C-Gregor Mendel** ★

**D-Frances Crick**



When we talk about TRAITS in science we consider TWO things. An organism's GENOTYPE and their PHENOTYPE.

Which of these terms do you think represents an organisms **PHYSICAL** appearance?

A) Genotype

B) Phenotype ★

## Genotype

the combination  
of alleles that  
determine a  
specific  
trait

bb

## Phenotype

the physical  
expression  
of a trait.



**We use different vocabulary to explain what the genotypes are for a particular trait**

**Remember that GENOTYPES are the alleles (or letter combination)**

**Homozygous** -means same  
BB or bb

**Heterozygous** -means different  
Bb

**Which of these is an example of a correctly written GENOTYPE?**

**A- BB** ★

**B-Brown eyes**

**C- BE**



**Which of these is an example of a correctly written PHENOTYPE?**

**A- BB**

**B-Brown eyes** ★

**C- BE**